## INDEX

ACID-BASE equilibrium and reflex time, 365.

— of blood, rôle of tissue in, 150.
Acoustic stimuli, response of kidney to, 499.

Adams, M. A. See Himwich and Adams,

172.
Adrenal, attempt to auto-transplant, 275.

--- insufficiency, 254.

Adrenalectomised dogs and cats, survival period of, 254.

Air, inspired, salivary secretion and oxygen tension of, 399.

Alkali, antagonism of, to curare, 563.

Amytal, action of, on vagus, 461.

Anemia in jaundice, 409.

—, influence of beef and liver diet on, 429.

Ascaris extract, effects of, on circulation and respiration, 143.

ASHMAN, R. and R. HAFKESBRING. Unidirectional block in heart muscle, 65.

Audition, function of basilar membrane in, 8.

BABKIN, B. P. and M. E. MacKay. Concerning the motor mechanism of the salivary glands, 370.

Bachem, A. The ultra-violet transparency of the various layers of human skin, 58.

BALDES, E. J. See Corbeille and BALDES, 505.

BANUS, M. G., L. N. KATZ and J. W. MULL. Observations on the rôle of tissues in maintaining the acid-base equilibrium of the blood. III. Further studies on the hind-leg preparation, 150.

Barlow, O. W. The influence of beef muscle, beef liver and liver extract on the anemia of fasting and of rice disease in pigeons, 429.

——. The influence of bicarbonate and phosphate buffers and of CO<sub>2</sub> on the functional activity of the perfused frog heart, 47.

Basal metabolism in Orientals, 661.

Basilar membrane, function of, in audition, 8.

BAXTER, H. The composition of the saliva in different phases of the secretion and by repeated stimulation, 132.

BIETER, R. N. The effect of the splanchnics upon glomerular blood flow in the frog's kidney, 436.

— and A. D. Hirschfelder. The rôle of the glomeruli as the preferential route for excretion of phenolsulphonephthalein in the frog's kidney, 178.

— and F. H. Scott. Blood pressure and plasma protein determinations in the same frog, 265.

Bile preparations, toxicity of, 609.

BLALOCK, A. See BRADBURN and BLA-LOCK, 115.

Blanchard, E. W. See Wenner and Blanchard, 563.

Block, unidirectional, in heart muscle, 65.

Blood changes and vitamin B, 520.

--- coagulation, activity of lecithin in, 423.

— , calcium in, 27.

flow, glomerular, splanchnic regulation of, 436.

----, study of, 115.

— pressure and plasma protein of frog, 265.

—, rôle of tissues in acid-base equilibrium of, 150.

sugar, action of secretin on, 496.
 effects of secretin on, 649.

- Bradburn, H. B. and A. Blalock. The relationship of changes in blood-flow through an extremity to (1) changes in temperature of tissues, (2) differences in oxygen content of the arterial and venous blood, and (3) cardiac output, 115.
- Brody, H. and M. S. Shiling. A note on the relation of salivary secretion to the oxygen tension of the inspired air, 399.
- Buchbinder, W. C. The effects of strophanthin and of quinidine on the rate of fibrillation of the tongue following hypoglossotomy, 654.
- CALCIUM in coagulation of blood, 27.
  CAMPBELL, C. J. See KNOWLTON
  and CAMPBELL, 19.
- Carbohydrate metabolism, 664, 679.
- Cardiac output, relation of changes in blood-flow to, 115.
- CEDER, E. T. See HIRSCHFELDER and CEDER, 624.
- Cholecystokinin, action of, 329.
- -, preparation of, 336.
- Circulation, effects of ascaris extract on, 143.
- -, fetal, in mammals, 637.
- Circulatory responses to forced respiration, 390.
- COLWELL, A. R. The use of constant glucose injections for the study of induced variations in carbohydrate metabolism:
  - I. Methods and controls, 664.
  - II. The effects of insulin, pancreatectomy and nervous manipulations of the pancreas, 679.
- CORBEILLE, C. Changes in volume of the kidney in response to acoustic stimulation, 499.
- and E. J. Baldes. Changes in volume of the spleen in response to acoustic stimulation, 505.
- Corpus luteum, 14.
- -----, prolongation of pregnancy by, 690.
- Cowgill, G. R. See Rose, Stucky and Cowgill, 531, 547, 554.
- Curare, antagonism of alkali to, 563.

- DECIDUOMATA, artificial, production of, 14.
- DE EDS, F. See KAHLER, DE EDS, ROSENTHAL and VOEGILIN, 225.
- DREWYER, G. E. See IVY, KLOSTER, LUETH and DREWYER, 336.
- ELECTROCHEMICAL potentials, measurement of, 225.
- Electron equilibria in biological systems,
- EMERY, F. E. and C. A. HERRICK. The effects of ascaris extract on circulation and respiration, 143.
- Energy in muscular exercise, foodstuffs for, 238.
- Enzyme action, growth and, effect of ethylene on, 624.
- Erythrocytes, saponin hemolysis of, 1. Ether, action of, on respiratory rate,
- Ethylene, effect of, on growth and enzyme action, 624.
- Exercise, muscular, use of metabolic waste heat in, 238.
- FAULEY, G. B. See Ivy and FAULEY, 206.
- Fetal circulation in mammals, 637.
- Fibrillation of tongue after hypoglossotomy, 654.
- ---, ventricular, 305.
- GASTRIC acidity, effect of vagus section on, 161.
- atony, insulin and, in vitamin B deficiency, 547.
- ---- emptying time, effect of hunger on, 206.
- hunger contractions, Ca and Mg ions and, 298.
- motility and vitamin B deficiency, 531.
- ---, hyperthyroidism and, 291.
- ——, parathormone and, 554. Gastro-intestinal tract, action of insulin on motility of, 467, 475, 482, 488.
- GAYNOR, E. P. See SHAFER, UNDERwood and GAYNOR, 461.
- Glands, salivary, motor mechanism of, 370.

- Glomerular excretion of phenolsulphonephthalein, 178.
- GOLDSTEIN, L. A. and A. J. TATELBAUM.
  Physiology of the corpus luteum.
  IV. Production of artificial deciduomata with extracts of the corpus luteum, 14.
- GREENE, C. H. See JORDAN and GREENE, 409.
- Growth and enzyme action, effect of ethylene on, 624.
- HAFKESBRING, R. See ASHMAN and HAFKESBRING, 65.
- HAMILTON, W. F. Filling of the normal human heart in relation to the cardio-pneumogram and abdominal plethysmogram, 712.
- HAMLIN, H. E. Working mechanisms for the liquid and gaseous intake and output of the Jacobson's organ, 201.
- HARTZEL, J. B. The effect of section of the vagus nerves on gastric acidity, 161.
- HARVEY, E. N. The effect of high frequency sound waves on heart muscle and other irritable tissues, 284.
- HATERIUS, H. O. See Nelson, Priff-NER and HATERIUS, 690.
- HAYMAN, J. M., JR. See SCHMIDT and HAYMAN, 157.
- Hearing, function of basilar membrane in, 8.
- Heart, effect of high frequency sound waves on, 284.
- -, frog, functional activity of, 47.
- -, intra-auricular block, 696.
- muscle, unidirectional block in, 65.
  —, normal, filling of, 712.
- —, recovery of, in electric shock, 305.
- Hemoglobin formation in obstructive jaundice, 409.
- Hemolysis, saponin, of erythrocytes, 1. Henderson, V. E. and T. A. Sweet. On the respiratory centre, 94.
- HERRICK, C. A. See EMERY and HERRICK, 143.
- HIMWICH, H. E. and M. A. ADAMS. Studies in glandular metabolism. I. The source of the lactic acid produced on incubation of the testicle and the submaxillary gland, 172.

- Hirschfelder, A. D. and E. T. Ceder. Does ethylene affect rate of growth or action of enzymes in animals, 624.
- See Bieter and Hirschfelder,

  178.
- Histamine salivary secretion, 123.
- HOOKER, D. R. On the recovery of the heart in electric shock, 305.
- Hubbard, R. S. Changes in the reaction of urine on awakening, 618.
- Hunger, effect of, on gastric emptying time, 206.
- Hydrolysis of phosphocreatine and lactic acid production in frog's muscle,
- Hyperthyroidism and gastric motility, 291.
- INHIBITION, peripheral, in arthropods, 19.
- Insulin, action of, on motility of gastrointestinal tract, 467, 475, 482, 488.
- and gastric atony in vitamin B deficiency, 547.
- Intracranial pressure, effect of, on knee jerk, 210.
- Irradiation of human skin, 58.
- ISAAC, L. A. See RAY and ISAAC, 377.
- Ivy, A. C. and G. B. FAULEY. The effect of hunger on the emptying time of the stomach, 206.
- —, G. KLOSTER, H. C. LUETH and G. E. DREWYER. On the preparation of "cholecystokinin," 336.
- See Lueth, Ivy and Kloster, 329.
  See Mortimer and Ivy, 220.
- IZQUIERDO, J. J. The influence of sympathetic stimulation upon intraauricular block in the mammalian heart, 696.
- JACOBSON, E. Electrical measurements of neuromuscular states during mental activities. I. Imagination of movement involving skeletal muscle, 567.
- Jacobson's organ, function of, 201.
- Jaundice, anemia in, 409.
- JORDAN, F. M. and C. H. GREENE. Anemia in jaundice. II. The formation of hemoglobin in experimental obstructive jaundice, 409.

KAHLER, H., F. DE EDS, S. ROSEN-THAL and C. VOEGTLIN. Electron equilibria in biological systems. III. The measurement of electrochemical potentials by means of a vacuum-tube static voltmeter which eliminates minute polarization currents, 225.

KATZ, L. N. See BANUS, KATZ and MULL, 150.

Kellogg, H. B. Studies on the fetal circulation of mammals, 637.

Kesten, H. D. A study of saponin hemolysis of individual erythrocytes, 1.

Kidney, dog's, lymph formation in, 157.
—, response of, to acoustic stimuli, 499.

KLOSTER, G. See Ivy, KLOSTER, LUETH and DREWYER, 336.

—. See LUETH, IVY and KLOSTER, 329.

Knee jerk, studies on, 210.

KNOWLTON, F. P. and C. J. CAMPBELL. Observations on peripheral inhibition in arthropods, 19.

La BARRE, J. and E. U. STILL. Studies on the physiology of secretin.

III. Further studies on the effects of secretin on the blood sugar, 649.

Lactic acid production on incubation of glands, 172.

Lecithin, activity of, in blood coagulation, 423.

LOUCKS, M. M. and F. H. SCOTT. Calcium in the coagulation of blood, 27

LUCKHARDT, A. B. See MONTGOMERY and LUCKHARDT, 210.

LUETH, H. C., A. C. IVY and G. KLOS-TER. Further observations on the action of "cholecystokinin," 329.

Drewyer, 336.

Lymph formation in dog's kidney, 157.

Mackay, M. E. Further data concerning the histamine salivary secretion, 123.

- See BABKIN and MACKAY, 370.

Mackler, H., J. M. D. Olmsted and W. W. Simpson. Hydrolysis of phosphocreatine and lactic acid production in frog's muscle, 362.

Maltaner, E. See Wadsworth, Maltaner and Maltaner, 423.

Maltaner, F. See Wadsworth, Maltaner and Maltaner, 423.

McClendon, J. F. Polarization-capacity as measured with a Wheatstone bridge with sine-wave alternating currents of high and low frequency, 83.

Mendel, L. B. See Rose, Stucky and Mendel, 520.

Metabolic waste heat, use of, in muscular exercise, 238.

Metabolism, basal, in Orientals, 661.

-, carbohydrate, 664, 679.

—, glandular, 172.

MONTGOMERY, M. F. and A. B. LUCK-HARDT. Studies on the knee jerk. VIII. The effects of acutely raised intracranial and intraspinal pressures upon the knee jerk, 210.

MORTIMER, B. and A. C. IVY. VII.
Studies on the pancreas. An attempt to repeat the Mellanby procedure for the isolation and purification of secretin, 220.

Mull, J. W. See Banus, Katz and Mull, 150.

Muscle, frog's, hydrolysis of phosphocreatine and lactic acid production in, 362.

Muscular exercise, use of metabolic waste heat in, 238.

NECHELES, H. Basal metabolism in Orientals, 661.

Nelson, W. O., J. J. PFIFFNER and H. O. HATERIUS. The prolongation of pregnancy by extracts of corpus luteum, 690.

Neuromuscular states during mental activities, 567.

OLDBERG, E. An attempt to autotransplant the adrenal, 275.

OLMSTED, J. M. D. See Mackler, Olm-STED and SIMPSON, 362.

- Oxygen content of blood, relation of changes in blood-flow to, 115.
- PANCREAS, studies on, 220. Parathormone and gastric motility,
- ---, effect of, on rat, 513.

ad

- Pearcy, J. F. Evidence of functional rôle of basilar membrane in audition, 8.
- Perussé, G. L., Jr. and J. S. Rozen. The effect of experimental hyperthyroidism on the movements of the empty stomach, 291.
- See Rozen and Perussé, 298.
- PFIFFNER, J. J. See Nelson, PFIFFNER and HATERIUS, 690.
- Phenolsulphonephthalein, glomerular excretion of, 178.
- Physical training, respiratory response to, 103.
- Plasma protein, blood pressure and, of frog, 265.
- Polarization-capacity, 83.
- PORTER, E. L. Evidence that the postural tonus of decerebrate rigidity increases in amount by the successive innervation of single motor neurones, 345.
- Postural tonus and innervation of single motor neurones, 345.
- Pregnancy, prolongation of, by corpus luteum, 690.
- QUIGLEY, J. P. and E. I. SOLOMON.
  Action of insulin on the motility of
  the gastro-intestinal tract. V. a.
  Action on the human duodenum.
  b. Action on the colon of dogs, 488.
- and R. D. TEMPLETON. Action of insulin on the motility of the gastrointestinal tract:
  - III. a. Action on the pyloric pouch. b. Action on the stomach following double splanchnicotomy, 475.
  - IV. Action on the stomach following double vagotomy, 482.
- See Templeton and Quigley, 467.

- RAPPORT, D. The nature of the foodstuffs oxidized to provide energy in muscular exercise. III. The utilization of the "waste heat" of metabolism in muscular exercise,
- RAY, G. B. and L. A. ISAAC. Chemical studies on the spleen. III. The action of splenic and other tissues upon removal of hemoglobin-methemoglobin solutions, 377.
- Reflex time, acid-base equilibrium and, 365.
- Renal response to acoustic stimuli, 499. Respiration, effects of ascaris extract on, 143.
- —, forced, respiratory and circulatory responses to, 390.
- Respiratory centre, 94.
- rate, action of ether on, 461.
- -- response to physical training, 103.
- RIES, F. A. and E. U. STILL. On the toxicity of purified bile preparations. II. The neuro-muscular system, 609.
- RING, G. C. See Schneider and Ring, 103.
- ROGOFF, J. M. See STEWART and Ro-GOFF, 254.
- Rose, W. B. and C. J. STUCKY. Studies in the physiology of vitamins. VIII. The effect of parathormone on normal and vitamin B-deficient rats, 513.
- ---, --- and G. R. Cowgill. Studies in the physiology of vitamins: X. Further contributions to the study of gastric motility in vitamin B deficiency, 531.
  - XI. The effect of insulin on gastric atony in vitamin B deficiency, 547.
  - XII. The effect of parathormone on gastric motility in vitamin Bdeficient and normal dogs, 554.
- —, and L. B. Mendel.

  Studies in the physiology of vitamins. IX. Hemoglobin, sugar and chloride changes in the blood of vitamin B- deficient rats, 520.

- ROSENTHAL, S. See KAHLER, DE EDS, ROSENTHAL and VOEGTLIN, 225.
- Rozen, J. S. and G. L. Perussé, Jr. The effect of calcium and magnesium ions on the gastric hunger contractions. 298.
- See Perussé and Rozen, 291.
- Salivary glands, motor mechanism of,
- secretion and oxygen tension of inspired air, 399.
- ----, histamine, 123.
- Saponin hemolysis of erythrocytes, 1.
- A note upon lymph formation in the dog's kidney and the effect of certain diuretics upon it, 157.
- Schneider, E. C. A study of respiratory and circulatory responses to a voluntary gradual forcing of respiration, 390.
- and G. C. Ring. The influence of a moderate amount of physical training on the respiratory exchange and breathing during physical exercise, 103.
- Scott, F. H. See BIETER and Scott, 265.
- See Loucks and Scott, 27.
- Secretin, action of, on blood sugar, 496.
- ---, effects of, on blood sugar, 649.
- —, Mellanby procedure for isolation of, 220.
- -, physiology of, 649.
- -, preparation and isolation of, 405.
- Shafer, G. D., F. J. Underwood and E. P. Gaynor. The action of amytal in impairing vagus cardiac inhibitory effects, and of ether in increasing the respiratory rate after its depression by amytal, 461.
- SHILING, M. S. See BRODY and SHILING,
- Shock, electric, recovery of heart in, 305. Shpiner, L. B. See Still and Shpiner, 496.

- SIMPSON, W. W. See MACKLER, OLM-STED and SIMPSON, 362.
- Skeletal muscle movement, electrical measurement of imagination of, 567
- Skin, ultra-violet transparency of, 58.
- SOLOMON, E. I. See QUIGLEY and SOLO-MON, 488.
- Sound waves, high frequency, effect of, on heart, 284.
- Splanchnic regulation of glomerular blood flow, 436.
- Spleen, chemical studies on, 377.
- —, response of, to acoustic stimuli, 505.
- -, rôle of, as reducing agent, 377.
- Stewart, G. N. and J. M. Rogoff. Studies on adrenal insufficiency. IX. The influence of extracts of adrenal cortex (sheep and cattle) on the survival period of adrenalectomised dogs and cats, 254.
- STILL, E. U. Studies on the physiology of secretin. I. On the preparation and isolation, 405.
- and L. B. SHPINER. Studies on the physiology of secretin. II. The effect of purified secretin on the blood sugar, 496.
- See La Barre and Still, 649.
- See RIES and STILL, 609.
- Stomach, effect of calcium and magnesium ions on hunger contractions of, 298.
- —, effect of hunger on emptying time of, 206.
- ---, motility of, and hyperthyroidism, 291.
- STUCKY, C. J. See Rose and STUCKY, 513.
- ——. See Rose, Stucky and Cowgill, 531, 547, 554.
- ---. See Rose, STUCKY and MENDEL, 520.
- Sweet, T. A. See Henderson and Sweet, 94.
- Sympathetic stimulation, effect of, on intra-auricular block, 696.

- TATELBAUM, A. J. See GOLDSTEIN and TATELBAUM, 14.
- TAYLOR, A. B. See WENNER and TAY-LOR, 365.
- Temperature of tissues, relation of changes in blood-flow to, 115.
- TEMPLETON, R. D. and J. P. QUIGLEY.
  The action of insulin on the motility
  of the gastro-intestinal tract. II.
  Action on the Heidenhain pouch, 467.
- ---. See Quigley and Templeton, 475, 482.
- Tissues, rôle of, in acid-base equilibrium of blood, 150.
- Tongue, fibrillation of, after hypoglossotomy, 654.
- Tonus, postural, innervation of single motor neurones and, 345.
- ULTRA-VIOLET transparency of human skin, 58.
- Underwood, F. J. See Shafer, Underwood and Gaynor, 461.
- Urine, changes in reaction of, on awakening, 618.

- VAGUS, action of amytal on, 461.
  - section, effect of, on gastric acidity, 161.
- Ventricular fibrillation, 305.
- Vitamin B, blood changes and, 520.
- --- deficiency, gastric motility and, 531.
- in, 547.
- Vitamins, physiology of, 513, 520, 531, 547, 554.
- Voegtlin, C. See Kahler, De Eds, Rosenthal and Voegtlin, 225.
- WADSWORTH, A., F. MALTANER and E. MALTANER. Further studies of the chemical reactions underlying the coagulation of the blood. The activity of lecithin, 423.
- Wenner, W. F. and E. W. Blanchard.
  Effect of intravenous injection of
  alkali on the action of curare, 563.
- Wenner, W. W. and A. B. Taylor. The effect of changes in acid-base equilibrium on reflex time, 365.